

IN THE CLAIMS:

Please add the following new claims.

2. In a communication system, a transceiver for transmitting and receiving signals comprising:

a modulator for providing a plurality of modulation methods;

an adaptive modulation selector coupled to said modulator for dynamically selecting an at least one modulation methods from the said plurality of modulation methods in response to a switching threshold; and

an optimizer for optimizing said switching thresholds in order to maximize throughput (TP).

AS

3. The transceiver of claim 2, wherein said optimizer is train by using an self-learning automaton.

4. The transceiver of claim 3, wherein said switching thresholds are adapted as a result of a training technique performed on said automaton.

5. A method for communicating in a communication system having a first communication station operable to transmit a signal modulated using at least one of a plurality of modulation methods comprising the steps of:

determining a switching threshold;

selecting a modulation method from the said plurality of modulation methods in response said switching threshold;

modulating said signal using said selected modulation methods;

and

transmitting said modulated signal.

6. The method of claim 5 wherein determining a switching threshold step involves using a self-learning automaton wherein the output of said automaton represents a set of switching thresholds.